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A NEW SPECIES IN THE *BAMBUSIPHAGA FASCIA* GROUP (HEMIPTERA, FULGOROIDEA, DELPHACIDAE) FROM SHAANXI, CHINA, WITH A KEY TO ALL SPECIES IN THE GROUP

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Abstract One new species of the *fascia* group in the delphacid genus *Bambusiphaga* Huang *et* Ding, *B. taibaishana* sp. nov., feeding on *Bashania fargesii* (E. G. Camuc) Keng *et* Yi from Taibaishan in Shaanxi Province (Northwest China), is described and illustrated. An identification key to the known species in this group is provided. Photographs of the adult habitus and illustrations of male and female genitalia of this new species are given.

Key words Fulgoroidea, Delphacidae, *Bambusiphaga fascia* group, new species, China.

1 Introduction

The *fascia* group was one of the seven groups proposed by Chen & Liang (2007) when they revised the Oriental genus *Bambusiphaga* Huang *et* Ding (1979), which is characterized by the tegmina often with zonal or nub-like black markings, anal segment ring-like, left lateroapical angle strongly produced into a very long process which surpasses the base of genital styles, genital styles moderately long and aedeagus slender, bent ventrad near middle (Chen & Liang, 2007). Up to now 4 species are included in this group (*B. fascia* Huang & Tian, 1980; *B. bakeri* (Muir, 1919); *B. jinghongensis* Ding *et* Hu, 1986 and *B. basifusca* Hou & Chen, 2010), widely distributed in the Oriental Region, especially in Southern China and also the border lands between the Oriental and Palaearctic Regions. In this paper, we add a new species from Shaanxi Province (Northwest China) and provide a key to the known species in this group.

Distribution. China (Yunnan, Guizhou, Hainan, Guangdong, Jiangsu, Anhui, Zhejiang, Gansu, Taiwan, Chongqing, Sichuan, Shaanxi, Taiwan); Philippines (Luzon, Laguna), Singapore, Malaysia (Penang).

2 Material and Methods

Specimens examined in this study are deposited in the Entomological Museum, Northwest A & F University, Yangling, Shaanxi, China (NWAFU). Genital segments of the examined specimens were macerated in 10 % NaOH and drawn from preparations in glycerin using a light microscope. Habitus photos were taken using a Scientific Digital micrography system equipped with an Auto-montage imaging system and a QIMAGING Retiga 4000R digital camera (CCD). Multiple photographs were compressed into final images. Morphological terminology used in this description follows that of Ding (2006). Measurements of body length are the distance between the apex of vertex and tip of abdomen. All measurements are in millimeters (mm).

Key to the species of the *Bambusiphaga fascia* group.

1. Forewings of male with basal 1/3 black 2
   Forewings of male with basal 1/3 yellow or slightly yellowish brown 4
2. Anal segment with a left lateroapical angle process 3
   Anal segment with a right lateroapical angle process ..... ***B. basifusca* Hou *et* Chen**
3. Male pygofer with medioventral process; aedeagus with two apical processes; female forewings without transverse stripe in middle ..... ***B. taibaishana* sp. nov.**
   Male pygofer without medioventral process; aedeagus without apical processes; female forewings with a dark fuscous transverse stripe in middle ..... ***B. fascia* Huang *et* Tian**
4. Genital styles without process near apex; aedeagus with subapical orifice bearing pair of spinous processes dorsobasally ..... ***B. jinghongensis* Ding *et* Hu**
   Genital styles with process near apex; aedeagus with the orifice not bearing spinous process dorsobasally ..... ***B. bakeri* (Muir)**

3 *Bambusiphaga taibaishana* sp. nov. (Figs 1 - 21)

Body length. Male (macropterous, n = 14) 1.97 - 2.20 mm; female 2.36 - 2.56 mm (macropterous, n = 4). Total length (including tegmen): male (macropterous) 4.21 - 4.34 mm, female (macropterous) 4.64 - 4.76 mm.

General color of male yellowish white to yellowish brown. Eyes red to reddish brown, ocelli reddish brown (Figs 1 - 2, 4 - 6). Antennae with segment I

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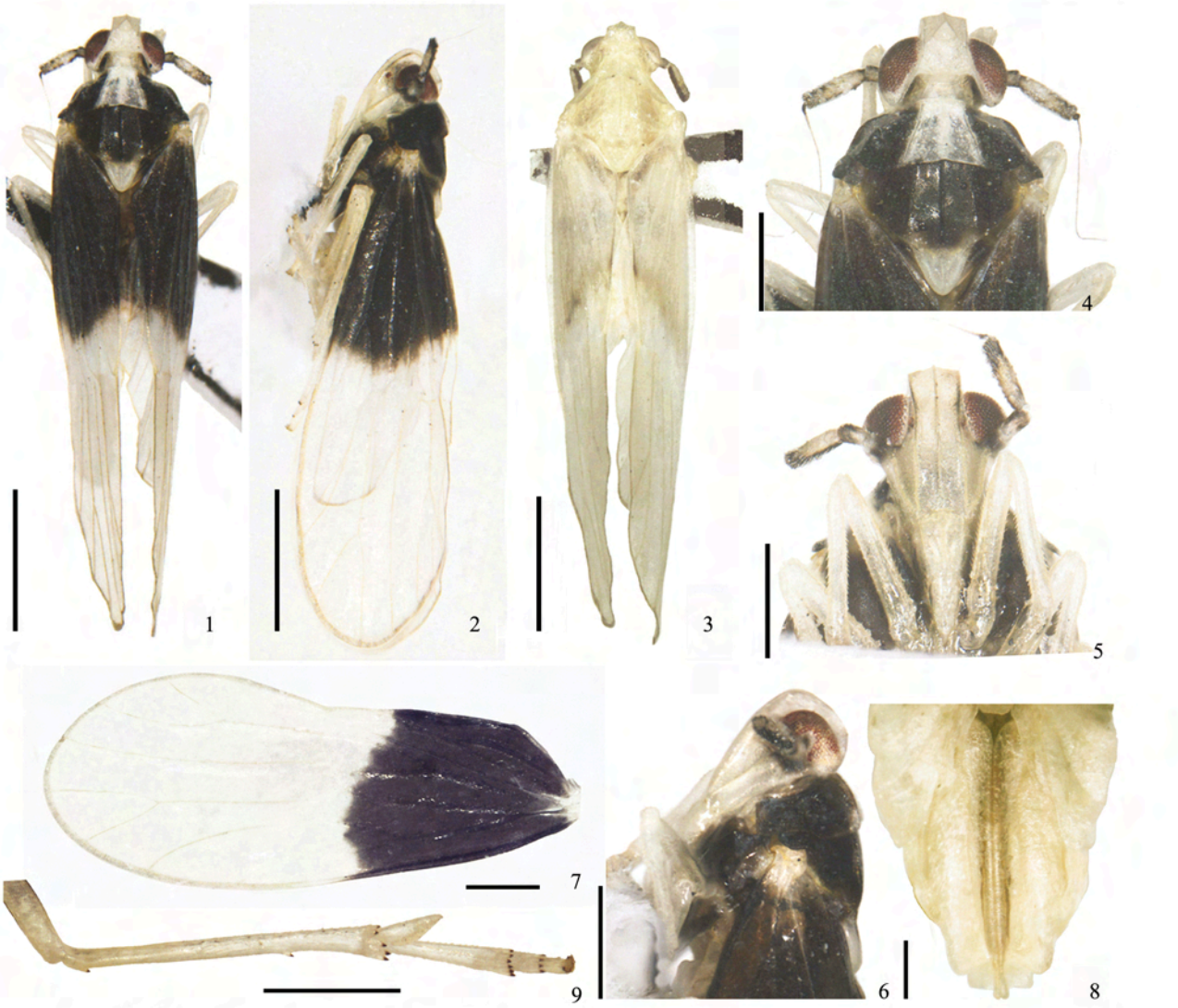

Figs 1 – 9. *Bambusiphaga taibaishana* sp. nov. 1 – 2, 4 – 7, 9. Male. 3, 8. Female. 1 – 3. Adult. 4, 6. Head and thorax. 5. Head. 7. Right forewing. 8. Genitalia. 9. Metatibia and metatarsus. 1, 3 – 4. Dorsal view. 2, 6. Left lateral view. 5, 8. Ventral view. Scale bars: 1 – 3 = 1.0 mm, 4 – 7, 9 = 0.5 mm, 8 = 0.2 mm.

mostly blackish except the ventral part yellowish brown, segment Ⅱ mostly yellowish brown, apically black, with longitudinal black stripe (Figs 1 – 2, 4 – 6). Pronotum between lateral carinae yellowish white anteriorly, basad of which bearing two big patches with tinge of black adjacent to lateral carinae, areas of outer lateral carinae of pronotum black. Mesonotum black brown except apex of scutellum yellowish white (Figs 1, 4). Forewings semitransparent, black brown in basal 1/3 and pale yellowish white in rest area (Fig. 7). Hindwings pale yellowish white, longitudinal veins in basal 2/5 and transverse venation in central area brown to black brown. Dorsum of male abdomen black except laterally orange brown, venter of abdomen blackish brown with posterior margin of each segment orange brown. Fore and median legs yellowish white to yellowish brown except coxae black, hind legs yellowish brown, apices of spines on tibiae and tarsi black (Fig. 9). Male pygofer, genital styles and the process of anal segment blackish brown to dark brown. Female yellow, ovipositor yellowish brown (Figs 3, 8).

Head. Including eyes narrower than pronotum (about 0.69∶1.00) (Figs 1, 3 – 4). Vertex at base almost as broad as long in midline, slightly narrower at apex than at base (0.78∶1.00), anterior margin transverse, slightly projecting in front of eyes and produced in middle, submedian carinae originating near middle of lateral carinae, uniting before apex of vertex, lateral carinae subparallel except where expanded behind eyes, posterior margin slightly sinuate and incised medially, Y-shaped carina distinct except common stem feeble, areas of basal compartment concave (Figs 1, 4). Fastigium rounded (Figs 2, 6). Frons ca. 2.67 times higher than its maximum width, as wide at base as at apex, lateral carinae slightly constricted at the level of ocelli, median carina convex and obscure apically, apical frontal

Figs 10 – 21. *Bambusiphaga taibaishana* sp. nov. 10 – 15. Male. 10 – 11. Genitalia. 12 – 13. Pygofer. 14 – 15. Anal segment. 16 – 17. Aedeagus. 18. Left genital style. 19. Genital styles. 20. First valvifers. 21. Second valvula. 10, 12, 14, 19. Caudal view. 11, 15 – 16, 18. Left lateral view. 13. Ventral view. 17. Dorsal view. Scale bars: 10 – 15, 18 – 19 = 0.2 mm; 16 – 17 = 0.1 mm; 20 – 21 = 0.3 mm.

margin curved (Fig. 5). Rostrum with apex reaching mesotrochanters. Postclypeus at base as wide as frons at frontoclypeal suture. Antennae with basal segment slightly longer than wide at apex, shorter than second segment (about 0.25: 1.00).

Thorax. Pronotum nearly as long as vertex in midline, anterior margin transverse, posterior margin concave inwardly, lateral carinae developed, almost straight and diverging posterolaterally, reaching hind margin, pronotum width 0.75 – 0.84, length 0.22 – 0.24 (Figs 1, 4). Mesonotum in midline ca. 1.44 times longer than vertex and pronotum together, lateral carinae straight, slightly diverging posterolaterad but not reaching hind margin, median carina reaching end of scutellum except where obscure subapically (Figs 1, 4). Forewing 3.57 – 3.93 mm long, surpassing tip of abdomen more than half of total length, with maximum width in apical third, apical margin rounded, row of crossveins in middle (Figs 1 – 3, 7). Legs with hind tibiae 1.07 – 1.10 mm long, bearing 2 lateral teeth on outer edge and 5 teeth at apex (grouped 2 at inner side and 3 at outer side), metabasitarsus joint distally with 6 teeth in a transverse row, tarsomere Ⅱ with 4 teeth. Post-tibial spur shorter than metabasitarsus, solid, thick, without teeth along lateral margin (Fig. 9).

Male genitalia. Male pygofer elongate in caudal aspect, ventrocaudal margin smooth, with single

median process on the midventral margin, in lateral view posterior margin sinuate, much longer than the anterior margin, laterodorsal angle rounded, in ventral view ventrocaudal margin deeply concave, medially with a rounded projection (Figs 10 – 13). Aedeagus broad and tubular in basal half, ventral margin curved subbasally and straight distad, apical half of aedeagus cleft dorsally and narrowing with two apical processes, the right process spinous and relatively short, basad of which slightly expanded, the left process long, in caudal view slightly broad at base and then curved in semicircular shape (Figs 10 – 11, 16 – 17). Genital styles long, reaching to ventral margin of anal segment, broad at base and narrowing apically, apex convergent (Figs 10, 18 – 19). Anal segment of male ring-like, in caudal view caudoventral margin strongly produced ventrad into single and long process on left side, broadened at base and then strongly narrowing, apical 2/5 almost straight and with nearly same width, apex curving rightwards, in lateral view the process curved and gradually narrowing with pointed apex (Figs 10 – 11, 14 – 15).

Female genitalia with ovipositor overpassing the pygofer (Fig. 8), first valvifers moderately large (Figs 8, 21), second valvula long and large, sclerotized, curved basally, straight and narrowing towards apex, dorsally with numerous blunt teeth and ventrally with small teeth near the tip (Fig. 20).

Holotype ♂, China, Shaanxi Province, Taibaishan, Haoping Temple, alt. 1 430 m, 15 Aug. 2011, coll. QIN Dao-Zheng and LIU Ting-Ting. Paratypes: 13 ♂♂, 4 ♀♀, same data as holotype.

Host plant. *Bashania fargesii* (E. G. Camus) Keng *et* Li.

Etymology. The specific epithet is named after the type locality, Taibaishan in Shaanxi Province, China.

Distribution. Currently known only from the type locality in Shaanxi Province (Northwest China).

Remarks. *Bambusiphaga taibaishana* sp. nov. is similar to *B. fascia* Huang & Tian, 1980, but differs from the latter by the midventral margin of pygofer with single process (without midventral process in *B. fascia*); female forewings without transverse stripe in middle (with a dark fuscous transverse stripe in *B. fascia*) and aedeagus with two apical processes (without apical process in *B. fascia*).

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中国带纹竹飞虱种团一新种并附该种团分种检索表（半翅目，蜡蝉总科，飞虱科）

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摘 要 记述采自陕西太白山巴山木竹上的带纹竹飞虱种团1新种，太白山竹飞虱 *Bambusiphaga taibaishana* sp. nov.，编制了该种团的分种检索表，提供了成虫照片及外生殖器特征图。

太白山竹飞虱，新种 *Bambusiphaga taibaishana* sp. nov.（图1～21）

新种与 *B. fascia* Huang & Tian, 1980 近似，区别在于新种尾节有1个腹中突（后者无腹中突）；雌性成虫前翅中部无弧形带纹（后者前翅中部有1条斜向的黑褐色弧形带纹）；阳茎端部有2个突起（后者端部无突起）。模式标本保存在西北农林科技大学昆虫博物馆（NWAFU）。

正模♂，陕西太白山，2011-08-15，海拔1 430 m，秦道正、刘婷婷采。副模：13♂♂，4♀♀，采集信息同正模。

词源：新种种名源自模式标本采集地（陕西太白山）。

关键词 蜡蝉总科，飞虱科，带纹竹飞虱种团，新种，中国.

中图分类号 Q969.35